The Utility Business Model of the Future

Chris Beam
President and Chief Operating Officer
# Who We Are

## 2018 AEP Company Overview

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Employees</td>
<td><strong>17,582</strong></td>
</tr>
<tr>
<td>Regulated &amp; Competitive Customers</td>
<td><strong>5.8 million</strong></td>
</tr>
<tr>
<td>Service Territory</td>
<td><strong>200,000 square miles</strong></td>
</tr>
<tr>
<td>Total Assets</td>
<td><strong>$68.8 billion</strong></td>
</tr>
<tr>
<td>Charitable Giving</td>
<td><strong>$25.5 million</strong></td>
</tr>
<tr>
<td>Transmission</td>
<td><strong>40,000 miles</strong></td>
</tr>
<tr>
<td>Distribution</td>
<td><strong>220,000 miles</strong></td>
</tr>
<tr>
<td>Total Generating Capacity (owned &amp; PPA)</td>
<td><strong>32,000 MW</strong></td>
</tr>
<tr>
<td>Total Renewable Portfolio*</td>
<td><strong>5,272 MW</strong></td>
</tr>
</tbody>
</table>

*Includes expected capacity as of year-end 2019.
Changing Landscape

- Regulatory frameworks
- Environmental concerns
- Grid modernization
- Employee resources
- Customer needs/demands
- Cost containment
2023 Strategy & Execution

**EXECUTE STRATEGY**

- Improve customer experience
- Invest in transmission and distribution networks
- Invest in regulated and contracted renewables
- Mitigate fossil and nuclear generation risk and optimize operations
- Relentless O&M optimization/future of work

**INITIATIVE THEMES**

- Invest in infrastructure & renewables
- Pilot technologies & business models
- Mitigate generation exposure
- Manage customer bills
- Grow load
- Improve operations

**WE ARE FOCUSED ON EXECUTING OUR STRATEGY WHILE IMPROVING THE CUSTOMER EXPERIENCE.**
2019-2023 Capital Forecast

- AEP Transmission Holdco: $8.3B
- Transmission: $8.3B
- Distribution: $8.3B
- Corporate: $2.8B
- Contracted Renewables: $2.2B
- Regulated Environmental Generation: $1.1B
- Regulated Fossil/Hydro Generation: $1.0B
- Nuclear Generation: $0.5B
- Regulated Renewables: $0.5B

100% of capital allocated to regulated businesses & contracted renewables
75% allocated to wires
US Electric Generation Fuel Mix

- Natural gas: 35%
- Coal: 27%
- Nuclear: 19%
- Hydro: 7%
- Wind: 7%
- Solar: 2%
- Other: 3%
AEP Accelerates Its Own Emissions Targets

Carbon Emissions*

* Reductions from 2000 levels
Environmental Control Investments*

* In millions

Total $9 Billion Estimated

BOUNLESS ENERGY™
Non-carbon GHG Reductions

TOTAL AEP SYSTEM MERCURY AIR EMISSIONS

TOTAL AEP SYSTEM NOx & SO2 EMISSIONS

AEP equity share of mercury air emissions from Toxic Release Inventory reporting. 2018 was estimated with MATS program emission monitors.

Direct annual emissions of SO2 and NOx from AEP’s ownership share of generation as reported under Title IV of the 1990 Clean Air Act.
Transforming Our Generating Fleet

2019 includes expected capacity as of year-end 2019. Future includes IRP forecasted additions and retirements through 2030. Energy Efficiency/Demand Response represents avoided capacity rather than physical assets.
Planned Generation Additions

Regulated and AEP Ohio Purchase Power Agreement

Wind and solar represent nameplate MW capacity.

Source: Current Internal Integrated Resource Plans as of April 2018.

Actual additions depend on market conditions, regulatory approval, customer demand and other external factors.
Renewable Portfolio and Energy Efficiency Standards

Energy Efficiency Standards

**ARKANSAS** (mandatory)
0.9% of 2015 retail sales in 2017 and 2018; 1.0% of 2015 retail sales in 2019.

**LOUISIANA** (voluntary)
Voluntary 2-phase EE plan.

**OHIO** (mandatory)
22% reduction of retail electricity sales by 2027 phased in beginning in 2009.

**MICHIGAN** (mandatory)
1% annual reduction of previous year retail sales in 2012 to through 2021.

**TEXAS** (mandatory)
30% reduction in annual growth in demand until the goal is equal to 0.4% of previous year peak demand.

**VIRGINIA** (voluntary)
10% electricity savings by 2022 relative to 2006 retail sales.

Note: Indiana EE goals are determined through the Integrated Resource Planning Process (SB 412).

Renewable Portfolio Standards

**Michigan** (mandatory)
Phase-in program increasing to 15% by 2021.

**Indiana** (voluntary)
Phase-in program increasing to 10% by 2025.

**Ohio** (mandatory)
Phase-in program increasing to 12.5% by 2026.

**Virginia** (voluntary)
Phase-in starting at 4% in 2010 increasing to 15% by 2025.

**Oklahoma** (voluntary)
Goal of 15% by 2015.

**Texas** (mandatory)
Goal of 5,600 MW by 2015; 10,000 MW by 2025.

There are currently no energy efficiency standards in Kentucky, Oklahoma, Tennessee or West Virginia.

There are currently no renewable portfolio standards in Arkansas, Kentucky, Louisiana, Tennessee or West Virginia.

* Virginia: Senate Bill 966, which will take effect on July 1, 2018, requires APCo to make and/or seek approval for investments in certain renewable projects and energy efficiency programs.
## Grid Modernization

<table>
<thead>
<tr>
<th>Company</th>
<th>Smart Meters</th>
<th>DACR Circuits</th>
<th>VVO Circuits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEP Ohio</td>
<td>706,027</td>
<td>90</td>
<td>41</td>
</tr>
<tr>
<td>AEP Texas</td>
<td>1,077,173</td>
<td>27</td>
<td>0</td>
</tr>
<tr>
<td>Public Service Company of Oklahoma</td>
<td>575,574</td>
<td>45</td>
<td>52</td>
</tr>
<tr>
<td>Indiana Michigan Power Company</td>
<td>15,366</td>
<td>36</td>
<td>49</td>
</tr>
<tr>
<td>Kentucky Power Company</td>
<td>—</td>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>Appalachian Power Company</td>
<td>197,985</td>
<td>46</td>
<td>3</td>
</tr>
<tr>
<td>Southwestern Electric Power Company</td>
<td>—</td>
<td>34</td>
<td>0</td>
</tr>
</tbody>
</table>

Smart Grid plans are continuously evolving. Data is approximate/estimated.


As of March 2019.

AMI/Smart Meter data through January 25, 2019.
Energy Efficiency Tech Impacts to AEP’s Sales Forecast

This chart reflects forecasted impacts of energy efficiency on residential and commercial sales within AEP’s service territory. The red line represents what our residential and commercial sales would have been if not for the increasing energy efficiency that is assumed will occur.
Reliability Indices
Measure Performance

ANNUAL AEP SYSTEMWIDE RELIABILITY INDICES

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAIFI¹</td>
<td>1.428</td>
<td>1.389</td>
<td><strong>1.531</strong></td>
</tr>
<tr>
<td>SAIDI²</td>
<td>216.3</td>
<td>215.0</td>
<td><strong>256.6</strong></td>
</tr>
<tr>
<td>CAIDI³</td>
<td>151.5</td>
<td>154.8</td>
<td><strong>167.7</strong></td>
</tr>
</tbody>
</table>

¹ System Average Interruption Frequency Index is the average number of sustained interruptions experienced by customers in a year.

² System Average Interruption Duration Index is the average number of minutes customers are without electric service in a year.

³ Customer Average Interruption Duration Index represents the average time required to restore service after a sustained interruption occurs.
AEP Employees*

* year-end
Workforce Demographics

- 26% Millennials (Generation Y, 1982 & after)
- 51% Generation X (1961-1981)
- 23% Baby Boomers (1943-1960)
- <1% Traditionalists (1942 & before)
Corporate Sustainability Goals

**ENERGY & ENVIRONMENT**
- Energy Transition
- Environment

**SOCIAL RESPONSIBILITY**
- Safety & Health
- Diversity & Inclusion
- Community Building

**ECONOMIC DEVELOPMENT**
- Economic Impact
- Customer Focus

BOUNDLESS ENERGY™